

CORESTA SMOKE STUDY GROUP - FLORENCE, ITALY, OCT. 26 - 28. th

SCIENTIFIC COMMUNICATION

I wish to present a paper

Title : AN AUTOMATED GAS CHROMATOGRAPHIC METHOD FOR THE
SIMULTANEOUS DETERMINATION OF NICOTINE AND WATER IN
CIGARETTE SMOKE.

Abstract (150 words)

A rapid automated gas chromatographic method has been developed for the simultaneous quantitative determination of nicotine and water in cigarette smoke condensate. Total analysis time is four minutes per injection and with automation a throughput of 100 samples plus standards is possible in 7 hours.

The use of a stream-splitter allows the determination of nicotine and water from a single injection by splitting the sample onto two packed GC columns. There is no interference to the nicotine or n-heptadecane internal standard peaks by other major smoke compounds, humectants, plasticisers and flavour compounds found in cigarette smoke.

Both GC columns are protected by a short disposable pre-column.

The method has been used on a routine basis and results compared to values obtained by a continuous flow method. A statistical evaluation of the nicotine deliveries measured showed that the GC method gave results which were in good agreement for most commercial cigarette brands irrespective of tobacco type or delivery range.

H.F. DYMOND (présenté par H.G. HORSEWELL)
(BAT - Research and Development, SOUTHAMPTON, England S 09 1 PE)

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